

is not even a serious claim that the multi-carrier GR-303-based technology AT&T postulates is “currently available,” because the industry has reached no consensus on the necessary standards and no resolution of the accompanying security concerns.<sup>239/</sup> Moreover, even if such technology *were* currently available, a CLEC could not make use of it unless it purchased the dedicated feeder capacity discussed above. But AT&T altogether excludes consideration of the costs of such capacity at the same time that it seeks to avail itself of the non-recurring cost savings that would critically depend on the purchase of that very capacity.

There are essentially two reasons why AT&T has nonetheless achieved some degree of success in promoting this absurd cost model. *First*, AT&T often succeeds in conflating the “flow-through” rate for *order processing* with the percentage of cases in which the *provisioning* of a hot cut will require human labor. But these are two separate inquiries. Even if the 98% flow-through rate that the AT&T non-recurring-cost model prescribes for automated order processing were reasonable — which it is not — the actual provisioning of a hot cut involves a number of additional tasks that require human involvement 100% of the time. *Second*, AT&T has also succeeded in confusing *forward-looking* costs with *future* costs, although the two concepts could not be more different. TELRIC bases forward-looking costs on the most efficient technology that is “currently available,” not on technology that might exist someday in the future (if at all).<sup>240/</sup> One would never know from AT&T’s advocacy, however, that these two concepts — “forward-looking” and “future” — are distinct. For example, AT&T’s cost expert

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<sup>239/</sup> For example, Telcordia’s GR-303 work program documentation for the year 2001 continues to reflect the fact that “*new requirements* are needed to support alternative distribution technologies . . . as well as services and applications (e.g., . . . *local loop unbundling*).” Telcordia Technologies, *GR-303 Integrated Access Platforms - 2001 Work Program Information* <<http://www.telcordia.com/resources/genericreq/gr303/program.html>>.

<sup>240/</sup> 47 C.F.R. § 51.505(b)(1).

**C. The Commission Should Explicitly Disavow the Applicability of Specific SM Inputs in the UNE Rate-Setting Context.**

The discussion above, at least with respect to recurring costs, illustrates the extent to which TELRIC disputes in the states often relate back to questionable input decisions in the SM. Indeed, with respect to all four of the recurring cost inputs discussed above — placement costs, structure sharing, network routing, and fill factors — the SM deviates from the Commission’s own explanation of TELRIC in the *Local Competition Order*. That is not surprising, because the SM model was never designed to set rates for UNEs.

The Commission has already acknowledged the SM’s deviations from TELRIC in other settings. For example, shortly after it adopted the SM, the Commission had to acknowledge in section 271 litigation that, contrary to a misconception reflected in the *Inputs Order* (at ¶¶ 315-317), an accurate representation of switching costs would take into account not just the discounted per-line costs of new switches, but the higher per-line costs of subsequent growth additions.<sup>244/</sup> More recently, the Commission rejected AT&T’s argument that the SM’s use of 94% fill factor for switching draws into question the much lower (and more realistic) fill factors adopted by several states. With unusual and long overdue directness, the Commission admonished that “Synthesis Model fill factors . . . *should not be used* for setting rates.”<sup>245/</sup>

Qwest seeks a more comprehensive and definitive acknowledgement by the Commission of the several other respects — most of them relating to the loop — in which the use of certain SM inputs would be entirely inappropriate in the UNE rate-setting context. This would not

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<sup>244/</sup> See *AT&T Corp. v. FCC*, 220 F.3d 607, 618 (D.C. Cir. 2000) (“[G]rowth additions to existing switches cost more than new switches only because vendors offer substantial new switch discounts in order to make telephone companies dependent on the vendors’ technology to update the switches.”); see also *id.* at 619 (noting that FCC had “cautioned parties from making claims in other proceedings based upon the input values” of the SM) (internal quotation marks omitted).

<sup>245/</sup> *Vermont 271 Order* ¶ 36 (emphasis added).

necessarily require the Commission to alter the SM itself, although it has indicated a general willingness to do so.<sup>246/</sup> As the Commission has observed, any given error in its universal service cost model may well have a relatively attenuated effect on the output of that model, the limited purpose of which is to identify *relative* cost differences among the states so that the Commission can allocate federal universal service funds.<sup>247/</sup> In contrast, the same error, used within a different model designed to set *absolute* rate levels for individual UNEs, may have enormous consequences.

The Commission has not made this problem go away simply by warning carriers and state commissions, at a very high level of generality, to stop relying on the decisions of the *Inputs Order* for purposes of UNE rate determinations.<sup>248/</sup> TELRIC is the Commission's methodology, and the state commissions will inevitably look to the Commission's own application of that methodology as persuasive precedent, if not a cover to justify what they are unable themselves to reconcile with TELRIC.

Qwest and other ILECs have met with limited success in trying to persuade state commissions that in setting UNE rates they should not rely on the decisions reflected in the SM

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<sup>246/</sup> *Inputs Order*, 14 FCC Rcd at 20170 ¶ 28 ("We also recognize . . . that the model must evolve as technology and other conditions change. We therefore have committed to . . . study how the model should be used in the future (e.g., how often inputs data should be updated) and how the model itself should change to reflect the changing circumstances.").

<sup>247/</sup> See Br. for Respondents FCC and United States, *GTE Serv. Corp. et al. v. FCC*, No. 99-1244, at 27 (filed Oct. 4, 2000) (fact that "the FCC uses TELRIC not only to determine the amount of LECs' costs that will be subsidized, but also to determine that average national costs against which the 135% benchmark is set . . . attenuat[es] the impact of the cost methodology on the amount of federal subsidies"), *cert. dismissed*, 531 U.S. 975 (2000); see generally Ninth Report and Order, *Federal-State Joint Board on Universal Service*, 14 FCC Rcd 20432 (1999), *rev'd sub nom. Qwest Corp. v. FCC*, 258 F.3d 1191 (10<sup>th</sup> Cir. 2001).

<sup>248/</sup> See, e.g., Memorandum Opinion and Order, *Application by Bell Atlantic New York for Authorization Under Section 271 of the Telecommunications Act To Provide In-Region, InterLATA Service in the State of New York*, 15 FCC Rcd 3953, 4985 ¶ 245 (1999).

and *Inputs Order*, despite the FCC's admonition that those decisions are not "necessarily" applicable to setting UNE rates. The states will continue to accept the CLECs' efforts to turn TELRIC into a time machine until the Commission itself identifies the *specific* respects in which use of SM assumptions would distort the cost inquiry in the UNE rate-setting context. The Commission should promptly itemize the particular respects in which it would be substantively inaccurate to rely on SM inputs in setting UNE rates.<sup>249/</sup> Alternatively, the Commission should simply prohibit reliance, in UNE rate proceedings, on the Commission's use of the specific SM inputs discussed here. This would leave the states free to consider the parties' arguments based on the Commission's guidance in the *Local Competition Order* and other orders addressing TELRIC in the context of UNE rates.

## V. CONCLUSION

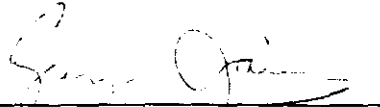
The unequivocal evidence in the record establishes that CLECs increasingly rely on self-provisioned and other non-ILEC to provide service and that intermodal competition continues to develop rapidly, particularly for advanced services. This evidence, coupled with the guidance provided by the D.C. Circuit in *USTA*, requires that the Commission reduce ILEC unbundling obligations by removing switching and, in markets that meet the Commission's pricing flexibility test, dedicated transport. Moreover, the Commission should reject CLEC proposals to *increase* unbundling, especially for facilities used to provide advanced services. Finally, in light of this Commission's and the D.C. Circuit's recognition of the integral link between UNE pricing and the list of elements to be unbundled, the Commission should provide guidance so as

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<sup>249/</sup> To date, the Commission's principal disavowals of SM inputs have come in response to CLEC challenges to Bell company section 271 applications. Of course, Bell companies do not often use section 271 proceedings as forums for challenging state UNE rates as *too low*, and that is one reason why the Commission has lacked any comprehensive opportunity to confirm the inappropriateness of the loop-related SM assumptions discussed above. That fact underscores the need for the Commission to undertake the more systematic inquiry urged here.

to prevent further misinterpretation and misapplication of the TELRIC standard and thereby permit increased development of facilities-based competition.

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- "Cheap Talk about Specific Investments" *Journal of Law, Economics, and Organization*, **11:2** (1995), (with R. Gibbons).
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## OTHER PROFESSIONAL PUBLICATIONS

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<http://www.acm.org/pubs/articles/journals/standardview>.

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"Competition in the digital age," US Senate Judiciary Committee, November 1997.

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"Cheap Talk and Coordination", in P. Newman, ed., *The New Palgrave Dictionary of Economics and the Law*. McMillan, 1998, pp 224-227.

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"The Professor and the Madmen: Review of *The New Palgrave Dictionary of Economics and the Law*," *Economic Journal*, November 2000.

"Monopoly Slack and Competitive Rigor," (originally 1983 teaching note) in Eric Rasmusen, *Readings in Games and Information*. Oxford: Blackwell Publishing (2001).

"Scale Economies and Synergies in Horizontal Merger Analysis," *Antitrust Law Journal*, 68: 685-710 (2001), (with Carl Shapiro).

Speeches as Deputy Assistant Attorney General. See [www.usdoj.gov/atr](http://www.usdoj.gov/atr).

## UNPUBLISHED PAPERS AND WORK IN PROGRESS

"Choosing the Rules for Formal Standardization," draft completed.

"Competition and Productive Efficiency" (with S. Borenstein), draft completed.

"Do Investors Forecast Fat Firms? Diagnosing Profit Dissipation from Stock Market Values of Gold Mining Firms," NBER Working Paper 7075, April 1999 (with S. Borenstein).

“Competition or Predation? Schumpeterian Rivalry in Network Markets,” with Michael L. Katz, Department of Economics working paper E01-306, August 2001.

“Coordination and Lock-In: Competition with Switching Costs and Network Effects,” completed draft, forthcoming in *Handbook of Industrial Organization*, vol. 3, with Paul Klemperer.

“The *American Airlines* Case: A Chance to Clarify Predation Policy,” completed draft, forthcoming in J. Kwoka and L. White, eds., *The Antitrust Revolution*, Oxford University Press (2003), with Aaron Edlin.

“Complaints in Antitrust,” draft, July 2001.

“Let a Hundred Flowers Bloom: Market Power and R&D Diversification,” draft, (with Richard Gilbert and Michael L. Katz).

“Negotiation and Merger Remedies,” in preparation for conference volume edited by H. Shelanski.

“ICE: The Internalization of Complementary Efficiencies,” in preparation, with Phil Weiser.

## **PROFESSIONAL ACTIVITIES:**

**Chair**, Competition Policy Center, Institute of Business and Economics Research, U C Berkeley, 1999-present. See [www.haas.berkeley.edu/groups/cpc](http://www.haas.berkeley.edu/groups/cpc)

**Board Member**, Computer Science and Telecommunications Board, National Academy of Sciences, 2001-present.

**Editor**, *Journal of Industrial Economics*, 1995-2000 (previously Associate Editor).

**President**, Industrial Organization Society, 1996.

**Vice-Chair**, Economics Committee, Antitrust Section, American Bar Association, 2001.

**Refereeing** for *American Economic Review*, *Bell Journal of Economics*, *Econometrica*, *Economic Inquiry*, *Economica*, *European Journal of Operational Research*, *Games and Economic Behavior*, *Industrial and Corporate Change*, *Information Economics and Policy*, *International Economic Review*, *International Journal of Game Theory*, *International Journal of Industrial Organization*, *Journal of Economic Dynamics and Control*, *Journal of Economic Theory*, *Journal of Economics and Business*, *Journal of Economics and Management Strategy*, *Journal of Law and Economics*, *Journal of Law, Economics and Organization*, *Journal of Macroeconomics*, *Journal of Money, Credit, and Banking*, *Journal of Political Economy*, *Journal of Public Economics*, *Journal of Public Policy and Management*, *Management Science*, *Mathematical*

*Social Science, Oxford Economic Papers, Quarterly Journal of Economics, Quarterly Review of Economics and Business, Rand Journal of Economics, Review of Economic Studies, Science, Theoretical Population Biology*, for Harvard University Press, Kluwer, MIT Press, Princeton University Press, for the Rand Corporation, the National Science Foundation, and the UC Energy Research Group.

**Affiliate**, Berkeley Center for Law and Technology; Center for Regulatory Policy.

**Academic Advisory Boards**

Consortium on Telecommunications Policy  
*Power and Telecom*(1997-1999)

**Seminar Presentations** at American Bar Association, Australian Competition and Consumer Commission, Barcelona, Boston University, Caltech, California PUC, Calgary, Cambridge University, Columbia, University of Chicago, Federal Communications Bar Association, FCC, Harvard, Georgetown (Law School), George Washington University, Goldman Sachs, LSE, MIT, Melbourne, Michigan, NBER, Nokia, Northwestern, Norwegian School of Management, Oslo University, Oxford, Princeton, Santa Fe Institute, Stanford, Tel Aviv, Arizona, British Columbia, University of California (Berkeley, Davis, Los Angeles, San Diego, Santa Barbara, Santa Cruz), Iowa, National Economists' Club, New University of Lisbon, USC, Toronto, Toulouse, Washington, US Department of Justice, US Treasury, US Federal Trade Commission, Canadian Bureau of Competition Policy, National Association of Attorneys General, National Research Council, OECD, World Bank, and at numerous conferences.

**Television Interview**, "Deep Thinking about Standards," Spring 1989.

**Organized** the GTE Laboratories Economics Symposium, August 1985.

**Organizing Committee**, Telecommunications Policy Research Conference, April 1986.

**Program Committee**, Econometric Society, June 1992; American Economic Association, January 2000.

**Speaker**, discussant, session chair at numerous conferences.

**Reviewer**, U. S. Office of Technology Assessment:

"Computer Software and Intellectual Property", *Finding a Balance*, 1992.

*Global Standards: Building Blocks for the Future*, March 1992.

**Reviewer**, National Academy of Sciences/National Research Council.

**Witness**, US Senate Judiciary Committee. hearing on "Competition in the digital age", November 4, 1997. Provided written (see above) and oral testimony.

**University and departmental** administrative service including service as Chair of the Graduate Committee, membership of the Personnel Committee and Undergraduate Committee, promotion and tenure committees, and *ad hoc* committees.

**Consultant** for US Government, other government, and private parties.

## **HONORS, SCHOLARSHIPS AND GRANTS**

Open Scholarship in Mathematics (undergraduate) 1972-1975.

College Book Prize for academic performance, 1974.

University Prize for final examinations in mathematics, 1975.

Taberdar Senior Scholarship [awarded to one to two graduate students in all subjects], 1975-76.

Science Research Council Studentship, 1975-78.

Amphlett Senior Scholarship [one of six in all subjects], 1976-78.

Hulme Senior Scholarship [one of three in all subjects], 1978-79.

University Prize for best economics master's thesis, 1979.

Principal Investigator, National Science Foundation grant, "Economics of Compatibility Standards and Lock-In," 1987-89.

National Fellow, Hoover Institution, Stanford University, 1988-9.

Co-Principal Investigator (with C. Shapiro), NSF grant, "The Evolution of Network Industries," 1989-91.

Hewlett Fund grant, Institute of International Studies, Berkeley, 1990-91.

Co-Principal Investigator (with C. Shapiro), NSF grant, "Technology Transitions with Network Externalities," 1992-94.



